

## **Historic, Archive Document**

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Pinon  
(Pinus edulis Engelm.)  
Stacked Volume, Cubic Feet, Based on Diameter in Inches at Breast  
Height and Number of Four-Foot Pieces  
Arizona-New Mexico  
1940

J. Howell, Jr.

Stacked Volume  
With Bark  
Cubic Feet

D.B.H. Inches	Number of 4-Foot Pieces																				Basis No. of Trees
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
	Stacked Volume - Cubic Feet																				
1	0.06	0.17	0.53	0.69	0.79	0.82															8
2	0.25	0.54	0.80	0.89	1.07	1.21	1.35	1.48	1.62	1.70	2.00	2.05	2.08	2.18							41
3	0.46	0.69	0.88	1.12	1.35	1.55	1.75	1.90	2.03	2.35	2.45	2.50	2.63	2.79	2.83	3.10	3.30	3.68	3.90	4.00	54
4	0.72	0.86	1.33	1.75	2.18	2.35	2.68	3.00	3.23	3.42	3.90	3.93	4.08	4.18	4.30	4.55	4.80	5.20	5.50	5.60	65
5	0.84	1.17	1.86	2.42	3.00	3.40	3.80	4.05	4.30	4.57	5.05	5.18	5.35	5.47	5.55	6.00	6.40	7.10	7.60	7.95	57
6	1.06	1.57	2.45	3.30	3.93	4.40	4.82	5.15	5.50	5.78	6.70	7.00	7.10	7.40	7.50	8.00	8.75	9.60	10.50	11.20	63
7	1.33	1.96	3.21	4.14	4.78	5.28	5.85	6.40	7.00	7.40	8.50	8.78	9.00	9.40	9.60	10.30	12.00	13.50	14.75	15.00	57
8	1.62	2.30	3.80	4.73	5.50	6.30	7.10	8.70	8.50	9.00	10.00	11.15	11.80	12.00	12.70	13.45	15.05	16.10	16.70	17.15	43
9		2.78	4.43	5.40	6.58	7.55	8.50	9.20	9.90	11.20	13.45	14.00	14.50	15.10	15.20	16.00	16.95	18.20	18.60	18.90	28
10		3.50	5.12	6.50	8.00	9.10	10.40	12.05	13.40	14.20	16.00	16.35	16.70	17.00	17.30	17.80	18.75	19.95	20.70	21.40	28
11			5.65	7.50	9.20	10.75	12.70	14.10	15.25	16.00	17.50	17.75	18.25	18.50	18.75	19.30	20.50	22.30	23.25	24.00	10
12			6.30	8.38	10.00	12.60	14.50	15.70	16.55	17.25	18.55	18.80	19.25	19.45	19.70	20.50	22.00	24.25	25.80	26.90	5
13				9.00	11.50	13.75	15.40	16.55	17.25	18.40	19.30	19.60	20.00	20.40	20.90	21.80	23.50	26.30	29.25	29.80	2
14				9.60	12.70	15.00	16.25	17.20	18.00	18.75	20.00	20.45	21.00	21.75	22.25	22.50	25.40	29.50	31.90	33.10	1
15					14.40	16.00	17.35	18.20	19.00	19.60	21.90	22.30	23.25	23.50	24.15	25.70	29.20	33.00	35.80	37.20	1
16					15.40	17.25	18.20	19.15	19.85	20.50	23.75	24.00	24.80	25.25	26.50	29.25	32.00	37.00	40.25	41.80	0
17						17.75	19.00	19.80	21.00	22.30	25.00	26.75	27.75	29.25	29.60	31.75	35.00	41.00	44.00	45.50	0
18						18.50	19.60	21.00	22.50	23.60	28.25	29.00	29.85	31.00	32.40	34.50	39.00	44.75	48.20	50.00	0
19								22.30	23.50	25.00	29.75	31.00	33.00	33.60	35.00	38.00	42.00	48.00	51.10	53.00	0
20								23.25	24.90	27.50	31.80	33.00	34.50	35.75	37.20	40.20	45.00	51.25	54.00	55.75	0
Basis	59	57	60	47	34	27	27	25	16	10	15	12	14	9	8	6	8	7	10	10	463

Basis, 551-Trees. Measured by the S.C.S. Volume, all sticks, 4-feet long, having a middle diameter of 2 inches or more, outside bark. Volume by stacking in regular ricks and computing contents. Cord wood only. Measurements by steel tape.

Aggregate Deviation- Table, 1.7% high.

Average Percentage Deviation, 23.5%.

D.B.H. Inches	Number of 4-Foot Pieces																				Basis No. of Trees
	22	24	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	
	Stacked Volume - Cubic Feet																				
5	8.45	8.90	9.80	12.10	14.20																
6	12.20	12.80	15.00	16.50	17.30	18.00															0
7	15.70	16.20	17.50	18.80	19.80	20.80	22.80														1
8	17.75	18.25	19.35	21.00	23.00	24.80	27.50	30.00													6
9	19.40	20.00	22.00	24.90	28.00	31.00	34.50	37.10	40.50	43.25	47.00										7
10	22.50	23.40	27.00	31.75	35.00	40.00	43.50	47.80	50.50	53.70	57.00	62.00									5
11	25.60	27.75	32.00	37.20	42.50	47.00	51.00	55.00	57.00	61.20	67.00	71.80	76.00								3
12	29.10	31.00	35.80	43.00	48.00	52.50	56.50	61.40	65.25	69.00	73.50	78.00	82.50	86.60							11
13	32.50	34.40	40.00	47.80	51.70	56.00	61.20	67.00	70.10	74.00	78.00	83.00	88.50	90.50	94.00						13
14	35.80	37.50	44.00	51.20	56.00	61.70	67.00	72.00	75.80	79.00	82.00	87.00	91.00	95.00	98.00	102.00					10
15	40.25	43.00	50.00	56.00	62.00	68.00	72.00	78.00	81.00	84.00	88.50	92.00	96.00	100.00	104.00	107.00	112.00				13
16	44.90	47.50	53.80	61.25	68.00	74.00	79.00	83.00	86.00	89.00	92.00	96.00	100.00	105.00	108.00	113.50	118.00	125.00			4
17	49.00	51.20	58.00	67.50	73.80	79.00	83.80	87.00	90.10	93.50	96.00	101.00	105.00	110.00	115.00	120.00	122.00	133.50	140.00		4
18	52.50	55.00	62.70	72.00	78.00	83.00	87.25	90.75	94.00	96.50	100.00	105.00	108.00	115.00	122.00	127.50	134.00	140.00	148.00	150.00	2
19	56.00	58.50	68.00	76.30	82.00	86.75	90.50	95.00	97.00	100.00	104.00	108.50	114.00	122.00	127.00	134.00	141.00	148.00	155.00	157.50	2
20	58.75	62.20	71.00	79.10	84.50	89.40	93.00	97.00	100.00	103.50	107.00	113.00	118.00	127.50	134.00	139.00	145.00	155.00	160.00	168.00	1
21			76.00	84.50	89.90	94.00	97.20	102.00	105.00	109.00	114.00	120.00	127.50	135.00	142.00	148.00	155.00	163.00	175.00	180.00	1
22				89.00	94.00	97.00	102.50	107.00	110.00	116.00	122.00	129.00	135.00	144.00	149.00	158.00	168.00	176.00	189.00	195.00	2
23					98.00	102.50	107.50	113.50	118.00	122.50	130.00	137.50	145.00	152.00	161.00	170.00	182.00	190.00	205.00	215.00	1
24					104.00	108.50	116.00	122.00	127.50	134.00	140.00	148.00	155.00	168.00	175.00	188.00	200.00	216.00	230.00	240.00	0
25						115.00	122.50	130.00	135.00	140.50	148.00	157.50	167.00	178.00	190.00	202.00	215.00	230.00	247.00	265.00	1
26						122.00	130.00	137.50	144.00	148.00	158.00	168.00	177.00	193.00	205.00	220.00	237.00	245.00	267.50	283.00	0
27							137.50	145.00	150.00	158.00	168.00	182.00	192.00	210.00	223.00	236.00	250.00	272.00	295.00	310.00	0
28								150.00	160.00	168.00	177.00	190.00	205.00	222.50	237.00	250.00	275.00	293.00	313.00	340.00	0
29									195.00	205.00	222.50	235.00	255.00	277.50	300.00	330.00	365.00	400.00	465.00	510.00	1
30										240.00	255.00	277.00	300.00	343.00	382.00	430.00	480.00	588.00	660.00	760.00	0
Basis	19	22	13	13	7	4	0	2	2	2	2	0	0	1	0	0	0	0	1	0	88

Height and

Cord Volume  
With Bark  
Standard Cord

	160	170	180	190	200	Basis No. of Trees
						0
						1
						6
						7
						5
						3
						11
						13
						10
345						13
358	0.7972					4
122	0.8355	0.8745				4
435	0.8862	0.9220	0.9765			2
280	0.9372	0.9530	1.0425	1.0940		2
530	0.9955	1.0472	1.0945	1.1555	1.1720	1
220	1.0465	1.1020	1.1570	1.2110	1.2310	1
472	1.0865	1.1335	1.2110	1.2500	1.3120	1
295	1.1572	1.2120	1.2740	1.3670	1.4055	2
348	1.2350	1.3130	1.3750	1.4765	1.5240	1
580	1.3280	1.4215	1.4845	1.6015	1.6800	0
580	1.4700	1.5630	1.6880	1.7970	1.8760	1
345	1.5780	1.6800	1.7975	1.9300	2.0700	0
15	1.7195	1.8520	1.9445	2.0905	2.2110	0
430	1.8445	1.9530	2.1250	2.3035	2.4220	0
520	1.9530	2.1480	2.2890	2.4460	2.6540	0

	14	15	16	17	18	19	20	Basis No. of Trees
								8
53	0.0170							41
56	0.0218	0.0221	0.0242	0.0258	0.0288	0.0305	0.0312	54
19	0.0325	0.0336	0.0356	0.0375	0.0406	0.0430	0.0438	65
18	0.0427	0.0434	0.0469	0.0500	0.0555	0.0594	0.0621	57
54	0.0578	0.0586	0.625	0.0684	0.0750	0.0820	0.0875	63
24	0.0734	0.0750	0.804	0.0938	0.1055	0.1153	0.1172	57
22	0.0938	0.0992	0.1051	0.1175	0.1258	0.1305	0.1340	43
33	0.1180	0.1189	0.1251	0.1321	0.1422	0.1454	0.1476	28
24	0.1329	0.1352	0.1390	0.1465	0.1559	0.1501	0.1672	28
27	0.1446	0.1472	0.1509	0.1601	0.1744	0.1817	0.1874	10
24	0.1519	0.1540	0.1602	0.1719	0.1895	0.2016	0.2100	5
53	0.1581	0.1633	0.1704	0.1836	0.2054	0.2286	0.2329	2
11	0.1700	0.1735	0.1758	0.1983	0.2304	0.2492	0.2588	1
18	0.1837	0.1887	0.2009	0.2280	0.2579	0.2796	0.2907	1
38	0.1973	0.2070	0.2286	0.2500	0.2891	0.3146	0.3264	0
29	0.2284	0.2313	0.2480	0.2734	0.3204	0.3440	0.3556	0
32	0.2421	0.2530	0.2697	0.3046	0.3496	0.3767	0.3907	0
28	0.2627	0.2734	0.2970	0.3280	0.3750	0.4025	0.4142	0
26	0.2793	0.2905	0.3140	0.3517	0.4007	0.4220	0.4356	0

Pinon  
(Pinus edulis, Engelm)  
Cord Volume, Based on Diameter in Inches at Breast Height and  
Number of Four-Foot Pieces  
Arizona-New Mexico  
1940

J. Howell, Jr.

Cord Volume  
With Bark  
Standard Cord

D.B.H. Inches	Number of 4-Foot Pieces																				Basis No. of Trees
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
	Cord Volume - Standard Cord																				
1	0.0005	0.0013	0.0041	0.0054	0.0062	0.0064															8
2	0.0019	0.0042	0.0063	0.0069	0.0084	0.0095	0.0105	0.0116	0.0127	0.0133	0.0156	0.0162	0.0163	0.0170							41
3	0.0036	0.0053	0.0069	0.0088	0.0106	0.0121	0.0137	0.0148	0.0157	0.0184	0.0191	0.0195	0.0206	0.0218	0.0221	0.0242	0.0258	0.0288	0.0305	0.0312	54
4	0.0056	0.0067	0.0104	0.0137	0.0170	0.0184	0.0209	0.0235	0.0253	0.0267	0.0305	0.0307	0.0319	0.0325	0.0336	0.0356	0.0375	0.0406	0.0430	0.0438	65
5	0.0066	0.0091	0.0145	0.0189	0.0234	0.0266	0.0297	0.0316	0.0336	0.0357	0.0395	0.0405	0.0418	0.0427	0.0434	0.0469	0.0500	0.0555	0.0594	0.0621	57
6	0.0083	0.0123	0.0190	0.0258	0.0307	0.0344	0.0377	0.0402	0.0430	0.0452	0.0524	0.0570	0.0554	0.0578	0.0586	0.625	0.0684	0.0750	0.0820	0.0875	63
7	0.0104	0.0153	0.0251	0.0323	0.0373	0.0413	0.0457	0.0500	0.0547	0.0578	0.0664	0.0686	0.0704	0.0734	0.0750	0.804	0.0938	0.1055	0.1153	0.1172	57
8	0.0127	0.0180	0.0297	0.0370	0.0430	0.0493	0.0554	0.0680	0.0664	0.0703	0.0781	0.0871	0.0922	0.0938	0.0992	0.1051	0.1175	0.1258	0.1305	0.1340	43
9		0.0217	0.0346	0.0422	0.0514	0.0590	0.0664	0.0718	0.0774	0.0875	0.1050	0.1094	0.1133	0.1180	0.1189	0.1251	0.1321	0.1422	0.1454	0.1476	28
10		0.0273	0.0400	0.0508	0.0625	0.0711	0.0812	0.0936	0.1046	0.1106	0.1250	0.1277	0.1304	0.1329	0.1352	0.1390	0.1465	0.1559	0.1501	0.1672	28
11			0.0441	0.0586	0.0718	0.0840	0.0988	0.1103	0.1192	0.1250	0.1367	0.1386	0.1427	0.1446	0.1472	0.1509	0.1601	0.1744	0.1817	0.1874	10
12			0.0492	0.0654	0.0782	0.0992	0.1133	0.1218	0.1293	0.1348	0.1450	0.1470	0.1504	0.1519	0.1540	0.1602	0.1719	0.1895	0.2016	0.2100	5
13				0.0703	0.0898	0.1074	0.1203	0.1293	0.1348	0.1438	0.1508	0.1532	0.1563	0.1581	0.1633	0.1704	0.1836	0.2054	0.2286	0.2329	2
14				0.0750	0.0992	0.1172	0.1260	0.1344	0.1407	0.1465	0.1563	0.1597	0.1641	0.1700	0.1735	0.1758	0.1983	0.2304	0.2492	0.2588	1
15					0.1125	0.1250	0.1356	0.1421	0.1485	0.1532	0.1711	0.1742	0.1818	0.1837	0.1887	0.2009	0.2280	0.2579	0.2796	0.2907	1
16					0.1203	0.1347	0.1422	0.1496	0.1550	0.1603	0.1855	0.1875	0.1938	0.1973	0.2070	0.2286	0.2500	0.2891	0.3146	0.3264	0
17						0.1395	0.1485	0.1548	0.1640	0.1743	0.1954	0.2090	0.2169	0.2284	0.2313	0.2480	0.2734	0.3204	0.3440	0.3556	0
18						0.1445	0.1531	0.1640	0.1758	0.1845	0.2209	0.2266	0.2332	0.2421	0.2530	0.2697	0.3046	0.3496	0.3767	0.3907	0
19								0.1741	0.1835	0.1954	0.2324	0.2421	0.2578	0.2627	0.2734	0.2970	0.3280	0.3750	0.4025	0.4142	0
20								0.1818	0.1945	0.2150	0.2484	0.2580	0.2696	0.2793	0.2905	0.3140	0.3517	0.4007	0.4220	0.4356	0
Basis	59	57	60	47	34	27	27	25	16	10	15	12	14	9	8	6	8	7	10	10	463

Basis- 551 trees. Measured by the S.C.S. Volume- all sticks 4 feet long, having a middle diameter of 2 inches or more, outside bark. Volume by stacking in regular ricks and computing contents. Cordwood only. Cord volume by converting stacked cubic volume.

Aggregate Deviation- Table 1.7% high.

Average Percentage Deviation, 25.5%.

D.B.H. Inches	Number of 4-Foot Pieces Cord Volume - Standard Cord																				Basis No. of Trees
	22	24	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	
5	0.0660	0.0696	0.0766	0.0946	0.1109																0
6	0.0954	0.1000	0.1172	0.1289	0.1352	0.1406															1
7	0.1226	0.1265	0.1367	0.1468	0.1547	0.1625	0.1782														6
8	0.1387	0.1425	0.1512	0.1640	0.1796	0.1937	0.2149	0.2346													7
9	0.1515	0.1563	0.1719	0.1945	0.2187	0.2421	0.2695	0.2900	0.3164	0.3380	0.3671										5
10	0.1757	0.1828	0.2109	0.2481	0.2734	0.3124	0.3400	0.3737	0.3946	0.4193	0.4453	0.4843									3
11	0.2000	0.2170	0.2500	0.2906	0.3320	0.3673	0.3984	0.4296	0.4453	0.4782	0.5237	0.5608	0.5938								11
12	0.2272	0.2421	0.2796	0.3360	0.3750	0.4100	0.4415	0.4796	0.5099	0.5394	0.5745	0.6093	0.6448	0.6772							13
13	0.2540	0.2688	0.3126	0.3730	0.4039	0.4374	0.4782	0.5240	0.5478	0.5780	0.6098	0.6484	0.6918	0.7068	0.7345						10
14	0.2799	0.2928	0.3440	0.4000	0.4376	0.4821	0.5234	0.5624	0.5922	0.6122	0.6408	0.6797	0.7104	0.7418	0.7658	0.7972					13
15	0.3143	0.3360	0.3904	0.4374	0.4845	0.5309	0.5623	0.6098	0.6327	0.6560	0.6915	0.7186	0.7504	0.7810	0.8122	0.8355	0.8745				4
16	0.3509	0.3710	0.4202	0.4787	0.5316	0.5784	0.6174	0.6482	0.6722	0.6953	0.7184	0.7500	0.7810	0.8200	0.8435	0.8862	0.9220	0.9765			4
17	0.3827	0.4001	0.4530	0.5275	0.5764	0.6170	0.6548	0.6800	0.7038	0.7201	0.7500	0.7882	0.8200	0.8590	0.8980	0.9372	0.9530	1.0425	1.0940		2
18	0.4102	0.4297	0.4898	0.5624	0.6093	0.6483	0.6816	0.7090	0.7342	0.7538	0.7810	0.8200	0.8440	0.8982	0.9530	0.9955	1.0472	1.0945	1.1555	1.1720	2
19	0.4377	0.4570	0.5310	0.5960	0.6405	0.6780	0.7065	0.7420	0.7580	0.7810	0.8125	0.8475	0.8908	0.9524	0.9920	1.0465	1.1020	1.1570	1.2110	1.2310	1
20	0.4590	0.4859	0.5548	0.6181	0.6600	0.6980	0.7265	0.7577	0.7810	0.8085	0.8357	0.8827	0.9220	0.9955	1.0472	1.0865	1.1335	1.2110	1.2500	1.3120	1
21			0.5937	0.6600	0.7026	0.7347	0.7594	0.7960	0.8103	0.8514	0.8900	0.9375	0.9955	1.0550	1.1095	1.1572	1.2120	1.2740	1.3670	1.4055	2
22				0.6956	0.7340	0.7578	0.8010	0.8360	0.8594	0.9060	0.9530	1.0077	1.0550	1.1250	1.1648	1.2350	1.3130	1.3750	1.4765	1.5240	1
23					0.7656	0.8006	0.8400	0.8860	0.9240	0.9562	1.0160	1.0745	1.1330	1.1865	1.2580	1.3280	1.4215	1.4845	1.6015	1.6800	0
24					0.8115	0.8479	0.9060	0.9528	0.9964	1.0474	1.0945	1.1575	1.2115	1.3130	1.3680	1.4700	1.5630	1.6880	1.7970	1.8760	1
25						0.8985	0.9570	1.0155	1.0545	1.0975	1.1560	1.2315	1.3060	1.3900	1.4845	1.5780	1.6800	1.7975	1.9300	2.0700	0
26						0.9520	1.0155	1.0748	1.126	1.1560	1.2340	1.3128	1.3828	1.5075	1.6015	1.7195	1.8520	1.9145	2.0905	2.2110	0
27							1.0750	1.1325	1.172	1.2340	1.3122	1.4220	1.5000	1.6400	1.7430	1.8445	1.9530	2.1250	2.3035	2.4220	0
28								1.1718	1.250	1.3122	1.3830	1.4835	1.6020	1.7380	1.8520	1.9530	2.1480	2.2890	2.4460	2.6540	0
29									1.5240	1.6015	1.7380	1.8360	1.9925	2.1695	2.3440	2.5785	2.8510	3.1245	3.6325	3.9875	1
30										1.8750	1.9915	2.1640	2.3410	2.6790	2.9825	3.3580	3.750	4.5910	5.1575	5.9400	0
Basis	19	22	13	13	7	4	0	2	2	2	2	0	0	1	0	0	0	0	1	0	88

